Letters

Research in Italy

The observations by David M. Gates on basic research in Europe (*1*) offer a sound basis for the further intensive analysis of comparative scientific institutions. His findings on research in Italy are strongly supported by observations of scholars in other fields. To a great extent, handicaps to research in sociology and anthropology are much the same as those reported by Gates (*2*).

Italy has made great strides in the development of the social sciences since the demise of Fascism. Neo-Hegelian idealism as fostered by the Croce school of historicism has hampered, if not hindered, the growth of empirical social sciences. Anthropology has, for the most part, been limited to a stilted pattern of growth. Narrow strictures have forced a continuation of physical anthropology in the mold of Lombroso. Aside from the anthropological offerings in medical schools, one finds "criminal anthropology" offered in the curricula of law faculties. In recent years, however, there has been a renewal of interest in cultural anthropology on the part of younger ethnologists. The Italian government, through the Ministry of Education, opened a Museum of Italian Ethnology in 1956, which is dedicated to the development of comparative ethnological studies (*3*). Of course, one should not ignore the research which has continued in archeology and ethnology under the direction of the Pigorini Museum and the Ministry of Education.

Within the realm of the social sciences generally, Italians are beginning to make excellent contributions to the development of logic, epistemology, and the philosophical basis of science (*4*). Despite the roadblocks established by the adherents of Croce, advances have been made in the post-World War II period. A problem similar to that noted by Gates besets sociology—a plethora of journals exists, some of them of questionable quality. Here, too, easy publication has fostered an emphasis on quantity. Yet we should not overlook the pressures on our side of the ocean to publish or perish.

In Italian anthropology and sociology the concept of teamwork has, until recently, been largely unknown. The work of the individual researcher has been uncoordinated and buried in obscure journals. As in the physical sciences, government-sponsored centers are attempting to coordinate and initiate research in needed areas. Inadequacies of library facilities hamper the work of the researcher (*5*). At this juncture it should be noted that American scientists can aid their Italian colleagues by donating needed books and journals to the libraries of the various university faculties in Italy.

Finally, a minor note of issue with Gates. Technically, the only degree granted by Italian universities is the *laurea,* which carries with it the title of *dottore* but is roughly equivalent to the American master's degree. The academic recognition which corresponds to the American Ph.D. is the *libera docenza,* obtained after rigid qualifications on publication have been met and after national noncompetitive examinations have been held by a committee of professors. Hence, Italy has an academic recognition rather than a degree which is equivalent to the Ph.D. (*6*).

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References

1. D. M. Gates, *Science* 128, 227 (1958).
2. V. A. Rapport, S. C. Cappannari, L. W. Moss, *Am. Sociol. Rev.* 22, 441 (1957).
3. V. A. Rapport and L. W. Moss, "Il museo come laboratorio funzionale," paper read at the International Inaugural Convention, Museo Nazionale delle Arti e Tradizioni Popolari, Rome, Italy, 22 Apr. 1956.
4. J. B. Ford, *Am. Sociol. Rev.* 22, 725 (1957).
5. L. W. Moss, *L'Economia* 3, 468 (1956).
6. R. C. Simonini, Jr., *Bull. Am. Assoc. Univ. Professors* 40, 563 (1954–55).

State of the Physical Sciences

In a recent review of *Matter, Earth, and Sky,* by George Gamow, the reviewer, W. P. Binnie, stated in his final paragraph that the reader will "find the author to be an illuminating writer on scientific matters as well as a provocative prophet" [*Science* **128**, 587 (1958)]. Binnie then quotes Gamow himself, as follows: "To sum up, we can say that the state of physical science today can be compared with the state of geography a few centuries ago: There are no Americas to be discovered any more."

It is astonishing to me that a physicist who has been acclaimed one of the foremost interpretative writers in the field of science today should have such a smug and short-sighted view concerning the likelihood of future discovery. There should be no question in the minds of scientists concerning the possibility that the well of new facts to be determined is drying up. With all the Americas discovered, we are now on the verge, thanks to physics, of discovering the universe, with its infinite numbers of geophysical Americas.

I would like to submit to Gamow and Binnie that not only will there always be Americas to be discovered but, further, that only he who has faith in their existence will be able to recognize them when he glimpses them from afar.

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Gamow readily acknowledges that his opinion regarding the state of the physical sciences is strongly disputed by many of his colleagues, and he is well aware of the fate of similar predictions made by scientists from the time of Pierre de Laplace to Lord Kelvin. The premise upon which Gamow founds his prophesy is indeed a debatable one—namely, that the field of physical science is finite and that its laws, like geometrical theorems, are deductible from a set of axioms.

Nevertheless, Morrell is to be chided on two counts: first, for baselessly including me in Gamow's camp when I only bring an opinion to his attention; second, for failing to appreciate that former and similar predictions were negated not by revelations due to faith but rather by discoveries which Horace Walpole would have described as scientific serendipities.

Since Morrell is so easily moved to indignation, I hesitate to recommend, as a source of elaboration of this subject, Philippe le Corbeiller's "Crystals and the future of physics" [*Scientific American* (January 1953)], an essay that merited inclusion in *The World of Mathematics* (volume 2).

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Forthcoming Events

February

1–6. American Inst. of Electrical Engineers, winter general, New York, N.Y. (N. S. Hibshman, 33 W. 39 St., New York 18.)

2–6. American Soc. for Testing Materials (committee week), Pittsburgh, Pa. (ASTM, 1916 Race St., Philadelphia 3).

3–5. Reinforced Plastics Conf., 14th, Chicago, Ill. (Soc. of Plastics Industry, Inc., 250 Park Ave., New York 17.)

6–7. American College of Radiology, Chicago, Ill. (W. C. Stronach, 20 N. Wacker Dr., Chicago 6.)

7–8. Chemistry of Coordination Compounds, symp., Allahabad, India. (A. K. Dey, Chemistry Dept., Univ. of Allahabad, Allahabad, India.)

9–11. American Acad. of Allergy, Chicago, Ill. (B. Rose, Royal Victoria Hospital, Montreal, P.Q., Canada.)

9–11. Nature of Coal, symp., Bihar, India. (Director, Central Fuel Research Inst., P. O. Fuel Research Inst., Dhanbad District, Bihar.)

9–24. Pneumoconiosis, intern. conf., Johannesburg, South Africa. (S.A.C.S.I.R., 18 London House, Loveday St., Johannesburg, S.A.)

11–13. American Acad. of Occupational Medicine, Boston, Mass. (L. Blaney, 1608 Walnut St., Philadelphia, Pa.)

12–13. Solid State Circuits Conf., Philadelphia, Pa. (A. B. Stern, General Electric Co., Bldg. 3, Syracuse, N.Y.)

14. Short Range Navigation Aids., Montreal, Canada. (Intern. Civil Aviation Organization, Maison de l'Aviation Internationale, Montreal.)

14–21. Planned Parenthood, 6th intern. conf., New Delhi, India. (Secretary, 1 Metropolitan House, Dadabhari, Naoroji Rd., Bombay 1, India.)

15–19. American Inst. of Mining, Metallurgical, and Petroleum Engineers, annual, San Francisco, Calif. (E. O. Kirkendall, AIME, 29 W. 39 St., New York 18.)

16–19. Problems in Field Studies in Mental Disorders, intern. work conf., New York, N.Y. (J. Zubin, American Psychopathological Assoc., 722 W. 168 St., New York 32.)

20–21. Epidemiology in Mental Disorders, annual meeting of the American Psychopathological Assoc., New York, N.Y. (J. Zubin, APA, 722 W. 168 St., New York 32.)

23–27. American Concrete Inst., 55th annual, Los Angeles, Calif. (W. A. Maples, A.C.I., 18263 W. McNichols Rd., Detroit 19, Mich.)

25–26. Midwest Industrial Radioisotopes Conf., Manhattan, Kan. (J. Kitchens, Dept. of Continuing Education, Kansas State College, Manhattan.)

25–27. Biophysical Soc., annual, Pittsburgh, Pa. (G. Felsenfeld, Dept. of Biophysics, Univ. of Pittsburgh, 325 Clapp Hall, Pittsburgh 13.)

26–28. American Acad. of Forensic Sciences, annual, Chicago, Ill. (W. J. R.